

A new Genus and some new Species Belonging to the Dipterous Family Bombyliidae.

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This paper is the result of a brief study of the genus *Geron* in the collection here. The genus seems to divide into two groups which are quite distinct, holding characters, especially one, which the writer considers of generic value. Typically the species of *Geron* have the third joint of the antennae long and tapering to a fine style-like apex. In 1892 Coquillett described two species which he placed in this genus, which have the third joint broadly rounded or truncated apically. Later he described others with the same character. The style in these, instead of being at the apex is in a shallow notch at or near the upper angle of this joint. It is sometimes so minute as to be scarcely discernible. This character, as well as the absence of scales, and the slight difference in the venation, serves as a base of the following new genus. All the previously known species of the group were described by Mr. Coquillett, and are included in the table of species given in this paper.

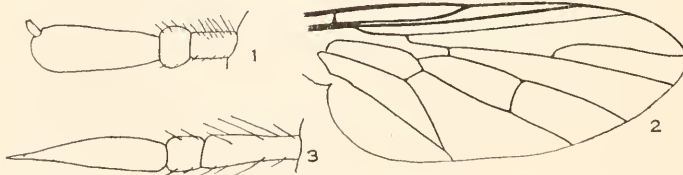


Fig. 1.—Antenna of *Pseudogeron mitis* (x 55). Fig. 2.—Wing of *Pseudogeron mitis* (x 14). Fig. 3.—Antenna of *Geron* sp. (x 55).

Through the kindness of Mr. Knab, of the United States National Museum, the writer was able to examine the typical specimens of most of the described species.

With the aid of these I am able to construct a table of species which I trust will be practical. On account of the lack of good series of many of the species, the amount of variation is difficult to determine and some of the characters used may not

hold. The presence or absence of yellow margins on the abdominal segments is apparently of little specific value and so is not used to the extent that it has been. There is often considerable variation in the length of the proboscis of specimens of the same species, also in the coloration of the halteres, so these characters should be used with care. In associating the two sexes the possible differences in coloration must be considered.

The material examined from Texas and New Mexico was collected by Messrs. J. A. G. Rehn and H. L. Viereck in the late Spring of 1902. All types of the new species, except where otherwise noted, are in the collection here. The length given for the specimens always excludes the proboscis and antennae.

PSEUDOGERON gen. nov.

Small species, moderately pilose to nearly bare. Head hemispherical, at most broad as thorax. Eyes large, broadly contiguous in the male. Frons in female about one-third width of head in known species. Vertical triangle occupied entirely by the prominent ocellar tubercle. Face medianly, contained in the large oral cavity; the sides more or less broad; lower occiput convex. Antennae situated about on median line of eyes; first joint generally shorter than third; second globose; third much longer than broad, apex rounded and notched at or near upper angle in which is situated the short or minute style. Proboscis exerted, corneous, as long as, or longer than, the head; palpi slender.

Thorax higher than long; strongly convex dorsally, more or less hunch-backed. Scutellum convex, rounded apically. Abdomen conical, broad as thorax, rarely longer. Legs slender without spurs; pulvilli normal; empodium rudimentary. Wings hyaline in known species, with auxiliary first and second veins long, the latter ending in the costa; third branched beyond discal cell, the two members of the branch subequal in length, generally acutely diverging at their bases; second submarginal cell about two to four times as long as broad; three posterior cells present; anal cell closed.

Type species—*Pseudogeron mitis* sp. nov.

TABLE OF SPECIES.

1. Posterior cross vein oblique, more or less sinuate	2
Posterior cross vein perpendicular to fourth and fifth veins, straight	5
2. First antennal joint nearly four times the length of second; ro- bust, mostly shining species	setosa
First joint at most twice the length of second; mostly opaque species	3
3. Face pilose; small c. v. at or beyond middle of discal cell. Abdomen opaque	trochilus
Abdomen shining black, margins of segments yel- low	cinctura
Face bare; small c. v. far before middle of discal cell	4
4. Large (6.0 mm.) robust species	capax
Small (3.5 mm.) slender species	sigma
5. Males	6
Females	11
6. Shining black, at most faintly pruinose below	atra
Mostly cinereous species	7
7. Mesonotum with distinct broad black vittae	mitis
Mesonotum cinereous, at most narrowly bivittate or faintly marked	8
8. Third antennal joint broadest before its middle and some- what tapering apically, tibiae mostly yellow	fasciola
Third antennal joint broadest beyond its middle, not tapering apically, tibiae black	9
9. Mesonotum densely cinereous, narrowly bivittate with black, with faint sublateral presutural spots	bivittata
Mesonotum at most faintly marked	10
10. Larger (3 mm.), robust, pilose species	knabi
Small (2 mm.), slender, nearly bare species	obscura
11. First antennal joint, anterior half of frons, humeri and scutellum yellow	knabi
These parts black, more or less densely cinereous	12
12. Mesonotum distinctly broadly trivittate with brown; orbits of frons and face yellow	formosa
Mesonotum narrowly bivittate and with large sublateral spots, subopaque, black	mitis
Mesonotum indistinctly marked or narrowly bivittate	13
13. Mesonotum densely cinereous with median pair of narrow vittae and faint sublateral presutural spot (compare <i>fasciola</i>) bivittata	
Mesonotum not or faintly trivittate	14

14. Fore tibiae entirely black *obscura*
 Fore tibiae mostly yellow 15
15. Third antennal joint broadest before middle, tapering apically; larger (3.5 mm.) species *fasciola*
 Third joint broadest beyond middle, not tapering; smaller (1.5 mm.) species *marginalis*

***Pseudogeron setosa* sp. nov.**

♂, Black; halteres brown and yellow; hind margins of abdominal segments yellow. Pile long and yellowish.

Shining; abdomen opaque. Frons and face silvery, sides of latter on mesal margin thickly beset with long black bristles, also similar bristles on first antennal joint and on posterior orbits.

Robust species. Proboscis twice as long as head; palpi one-fourth as long. First antennal joint nearly as long as third; third as long as first and second, two and one-half times as long as broad with greatest width at middle. Second vein ending opposite middle of second submarginal; latter broad apically due to the forward curving of the last third of the anterior branch of third vein, so that the length of the cell is hardly twice as long as its greatest width. Small c. v. beyond middle of discal cell; post c. v. oblique and straight.

♀, Destitute of the black bristles on the head, halteres entirely yellow; second submarginal cell longer and the post. c. v. sinuate. Length, ♂, ♀, 5.0 mm.

Holotype—♂, Tahoe, California, August 11, 1905. Type No. 6080.

Allotype—♀, Topotypic.

These specimens have been in alcohol and the pile is matted. Normally, there may be considerable amount of pruinose coating present which is not apparent on the type specimens.

In venation this species is similar to the typical *Geron* but there is no attenuation in the third antennal joint.

***Pseudogeron capax*.**

1892. *Geron capax* Coquillett, Can. Ent., xxiv, 126.

Described from specimens of both sexes from Orange County,* California.

I have examined a male (cotype) and a female from Los Angeles County, California; a male labeled "Cala" and another male bearing label "39." I have not seen the specimens that are responsible for the New Jersey record.

* Orange County is a part of the original Los Angeles County.

Pseudogeron sigma.

1902. *Geron sigma* Coquillett, Proc. U. S. Nat. Mus., xxv, 101, 1903.

Described from both sexes from Alabama, North Carolina and California. *Coquillett*

I have examined a female (cotype) from North Carolina and two males from Colorado. That these are conspecific, I will only assume.

Pseudogeron cinctura.

1894. *Geron cinctura* Coquillett, Tr. Am. Ent. Soc., xxi, 111.

Described from both sexes from Southern California.

I have not seen this species. The description suggests *P. setosa*, but the markings of the thorax separate this species, unless perfect specimens of that species show similar markings. Then the length of the antennae may be of value.

Pseudogeron trochilus.

1894. *Geron trochilus* Coquillett, Tr. Am. Ent. Soc. xxi, 111.

Described from both sexes from Southern California.

I have examined 2 ♂ and 1 ♀ from Alamogordo, New Mexico; 1 ♀, El Paso, Texas, April.

Pseudogeron atra sp. nov.

♂, Black, shining; knob of halteres yellow. Sparsely pilose.

Proboscis as long as head; palpi more than half as long. First and second antennal joints subequal in length; third one and one-half times as long as broad with greatest width beyond middle. Second vein ending beyond middle of second submarginal; latter four times as long as broad; small c. v. just beyond basal c. v. and far before middle of discal cell; post. c. v. straight. Length, 1.6 mm.

Holotype—♂, Alamogordo, New Mexico, May 7, 1902. Type No. 6081.

Pseudogeron obscura sp. nov.

♂, ♀, Similar to *P. formosa*, but head and legs entirely black. Mesonotal markings similar but much subdued or absent. Yellow margins of abdominal segments very narrow, almost wanting. Second submarginal cell three times as long as broad. Length, 1.6-2 mm.

Holotype—♀, Alamogordo, New Mexico, April 9, 1902. Type No. 6082.

Allotype—♂, El Paso, Texas, March 31, 1902.

Before me is a female from Highrolls, New Mexico, June 3, 1902, which is probably this species, but its condition is not good enough for critical study.

***Pseudogeron formosa* sp. nov.**

♀, Black, frontal and facial orbits, palpi, halteres, hind margins of dorsal abdominal segments and entire venter, trochanters, bases and apices of fore and middle femora and tibiae, and basal veins of wings, yellow. Opaque: head and thorax densely cinereous, frons and face with broad black median stripe; occiput brownish medianly. Mesonotum with a broad and two narrow median brown stripes. Scutellum with a median brown spot. Dorsal abdominal segments opaque velvety black with hind margins yellow. Legs more or less cinereous.

Bare or nearly so. Proboscis as long as head and thorax together; palpi very short. First and second antennal joints subequal; third, one and one-half times as long as first and second, three times as long as broad, with greater width beyond middle. Second vein ending beyond middle of second submarginal; latter at least four times as long as broad. Small c. v. near base of discal, opposite basal c. v.; post. c. v. straight. Length, 2 mm.

Holotype—♀, Alamogordo, New Mexico, June 26, 1902. Type No. 6083.

Paratype—1 ♀, topotypic.

***Pseudogeron mitis* sp. nov. Figs. 1, 2.**

♂, Black; halteres brown and yellow; hind margins of abdominal segments yellow; basal veins of wings pale.

Opaque, mesonotum and scutellum more or less shining. Frons, face and lower occiput densely cinereous. Mesonotum with two well-separated median stripes and broad lateral margins and pleurae densely cinereous, scutellum with cinereous margin. Abdomen densely cinereous with bases of segments more or less opaque to subopaque, black. Legs sparsely cinereous. All pile white.

Pilose. First antennal joint nearly twice as long as second; third, one and one-half times as long as first and second, three times as long as broad, with greatest width near apex. Proboscis as long as head; palpi half as long. Second vein ending opposite middle of second submarginal; latter three times as long as broad; small c. v. before middle of discal cell and beyond basal c. v.; post. c. v. straight.

♀. Head entirely cinereous. Palpi slightly shorter. Thorax cinereous; mesonotum with two fine median stripes anteriorly and large spot laterally interrupted at suture, another small supraalar spot, all subopaque black. Scutellum immaculate. Legs more densely coated. Second submarginal cell slightly longer. Length, ♂, ♀, 3.0-3.8 mm.

Holotype—♂, Alamogordo, New Mexico, May 7, 1902.
Type No. 6084.

Allotype—♀, topotypic, April 20, 1902.

Paratypes—7 ♀, topotypic, April 23 to May 1, 1902.

***Pseudogeron bivittata* sp. nov.**

♂. Black; halteres, margins of dorsal and ventral abdominal segments, knees and basal veins of wings yellow. Entirely opaque, densely cinereous, sparingly white pilose which is more abundant on abdomen. Frons and face silvery; mesonotum with a median pair of narrow brown stripes, abbreviated posteriorly.

Proboscis as long as thorax; palpi one-fourth as long. First and second antennal joints subequal; third, twice as long as first and second, three times as long as broad, with greatest width at middle. Second vein ending slightly before middle of submarginal; small c. v. before middle of discal cell and far beyond basal c. v.; post. c. v. straight.

♀, Proboscis shorter and palpi longer in proportion. Third antennal joint shorter. Length, ♂, ♀, 3.0-3.5 mm.

Holotype—♂, El Paso, Texas, April 5, 1902. Type No. 6085.

Allotype—♀, topotypic.

***Pseudogeron knabi* sp. nov.**

♂, Black; base of palpi, halteres, margins of abdominal segments, knees, basal veins of wings, costa as far as end of auxiliary and entire first vein yellow. Moderately white pilose, pile long on head and abdomen. Densely cinereous; frons and face silvery; mesonotum blackish, with faint darker sublateral presutural spots.

Face bare above. Proboscis twice as long as head; palpi slightly more than one-fourth as long. First antennal joint hardly longer than second; third three times as long as first, two and one-half times as long as broad with its greatest width at or beyond middle. Second vein at middle of second submarginal; latter two and one-half times as long as broad; small c. v. before middle of discal cell and beyond basal c. v.; post. c. v. straight.

♀, Anterior half of frons, face, first antennal joint, base of palpi, prothorax, humeri, lateral mesonotal margins more or less, scutellum, abdomen except bases of segments, apices of femora and all tibiae yellow; halteres white. Proboscis longer in male. Length, ♂, ♀, 3.0 mm.

Holotype—♂. Las Cruces, New Mexico, October 5, 1895 (T. D. A. Cockerell), [U. S. N. M. Type No. 19222.]

Allotype—♀, topotypic.

Although the two sexes are so different in their coloration, there are characters which determine their association. Such are the venation, yellow bases of palpi and the form of the antennae, as well as the similarity of the data regarding their habitat.

***Pseudogeron marginalis* sp. nov.**

♀, Similar to *P. formosa* but the head entirely black; mesonotal markings obsolete or faintly discernible. The second submarginal cell three times as long as broad. Legs entirely, or all femora, fore and middle tibiae entirely, and bases of their tarsi, bases of hind tibiae, yellow. Length, 1.3-2.0 mm.

Holotype—♀, Alamogordo, New Mexico, May 2, 1902.
Type No. 6086.

Paratypes—4 ♀, topotypic, April 26 to May 1, 1902.

***Pseudogeron fasciola*.**

1892. *Geron fasciola* Coquillett, Can. Ent., xxiv, 125.

Described from both sexes from Merced County, California.

I have examined cotypes of both sexes. The species approaches the preceding but differs in the structure of the antennae. This is the only species I have seen in which the third antennal joint is at all tapering from the base to apex. The decided notch and truncate apex decide its generic position.

Data Wanted on the Screw Worm Fly (Dip.).

In connection with the investigations which the Bureau of Entomology is conducting relating to the screw-worm fly, *Chrysomya macellaria*, the undersigned desires to secure records of the first appearance in spring of adults of this species in various parts of the United States.—F. C. BISHOP, Box 208, Dallas, Texas.

The Cotton Worm Moth in Minnesota (Lep.).

Apropos of the note in the NEWS for April, page 185, the cotton worm moth, *Alabama argillacea*, was present here in the latitude of St. Paul in large numbers, last autumn, and caused a little damage and much anxiety to growers of late-bearing strawberries, because the moths actually attacked the fruit itself, inserting their proboscids into the pulp, and in the estimation of the growers, seriously injuring the berries. This is the first occurrence, to the best of my knowledge, in the last thirteen years, of this moth being found in this latitude in Minnesota.—F. L. WASHBURN, State Entomologist.